February 2003

ENERGY REGULATORS REGIONAL ASSOCIATION

EU Accession Countries Working Group

Environment Protection - Comparative Survey

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ERRA
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Environment Protection

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Introduction

The "*EU Accession Working Group*" of the Energy Regulators Regional Association (ERRA) was established with the aim of providing a common platform for those ERRA member organizations where EU accession is a high priority for national governments and EU membership is accessible in the near future. These ERRA members agreed that there are numerous topics related to energy regulation that necessitate common solutions and management by accession country regulators.

The issue of "*Environment Protection and Green Energy Regulation*" was the first topic discussed by the Working Group Members. The present Comparative Survey is the final product of the Working Group and represents a complete analysis of 9 EU accession countries in the field of environmental targets, emissions trading, management of radioactive wastes, renewable energy sources and environmental taxation.

Although energy regulators do not have full competency in all the above-mentioned environmental issues, they are in daily contact with partner organizations responsible for the environment and they are in the position to advise certain mechanisms to promote environment protection and to avoid market distortions. We would like to thank Mr. Penko Penkov (State Energy Regulatory Commission of Bulgaria), Director Marts Ots (Estonian Energy Market Inspectorate, Mrs. Gabriella Pal (Hungarian Energy Office), Mrs. Lija Makare (Latvian Public Utilities Commission), President Vidmantas Jankauskas (National Control Commission for Prices and Energy of Lithuania), Mr. Pavel Boguslawski (Energy Regulatory Authority of Poland), Mr. Alexander Sandulescu (National Electricity and Heat Regulatory Authority of Romania), Commissioner Dusan Holoubek (Regulatory Office for Network Industries of Slovakia) and Mr. Ali Ahmet (Energy Market Regulatory Authority of Turkey) for their contributions to the present Survey. We appreciate the assistance received from the members of the "*CEER Joint Working Group on Taxation and Environment*" for their continuous support throughout the work.

Vidmantas Jankauskas
Chairman
ERRA EU Accession Working Group
President
National Control Commission for Prices and Energy of Lithuania

1. ENVIRONMENTAL TARGETS[1]

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Target of Directive on E-RES	29%	Reduction of negative environmental effects of energy sector	No target	No target	Until 12% of the primary energy balance in 2010	7,5% of electricity produced in 2010 must come from RES	The Directive 2001/77 is undergoing to be adopted	No target	
Target of Agreement GHG	-8% in 2008-2012 from1988	Measures that reduce the emission of pollutants	-6% in 2008-2012 on the 1985-87 basis	8% in 2008-2012 less than 1988	Less by 8% in 2008-2012on 1998 basis	6% reduction relative to the base year of 1998 should be reached in the years 2008 - 2012 with significant reduction level to be achieved till 2005	Romania ratified by Law 3/2001the Kyoto Protocol to the United Nations Framework Convention on Climate Change. Romania must reduce with 8% the emissions from 1989 to 2008.	8% in 2010 - 2012	
Capacity Target in CHP	No target	Increase efficiency	No target	No target	35% in 2010 - target in the NES	No target CHP capacity has been set. Out of 33 GW of installed capacity 16% in CHPs.	Romania has already 7627 MW installed in cogeneration power plant which represents 36% from the total installed capacity		

[1] Abbreviations:
RES: renewable energy resources
GHG: greenhouse gas
CHP: combined heat and power
EIA: environmental impact assessment
LCP: large combustion plants
E-RES: electricity from renewable energy sources
NC: national ceiling for emissions
IPPC: integrated pollution prevention and control
TGC: tradable green certificates

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Responsibility of the Regulator:									
In EIA	Indirect	Through the price and tariff setting	No direct responsibility, but several licensing procedure involves EIA to be approved by environmental authorities	Indirect	Evaluation of the respective costs in the energy prices.	It is not the responsibility of the Regulator	ANRE has no direct responsibilities on environmental impact assessment	MoE - Min. of Environment	
In LCP	Indirect	Through the price and tariff setting	Direct involvement in allocation of yearly emission quotas for SO2 and NOX, plus indirect influence through tariff regulation	Licensing and tariff setting	Indirect		ANRE, in order to granting a license has the responsibility to verify if the Environmental Regulator issued Environmental Authorization. During the period of License validity ANRE survey the compliance of observation the provision of the Environmental Authorization.	MoE - Min. of Environment	

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Directives:									
IA 85/337	The following legislative acts partially transpose the requirements of Directive 85/337/EEC, amended by 97/11/EC on the assessment of the effects of certain public and private projects on the environment: Environmental Protection Act (State Gazette № 86/1991; as amended in April 2000); Regulation № 4 on Environmental Impact Assessment (State Gazette № 84/1998); Decree № 87/23.03.1995 on Ratification of the Convention on Environmental Impact Assessment in Transboundary Context.	Closed	It has been implemented by the Environment Protection Act (53/1995) - last amendment in 2002; implementation complete by Government Decree No. 20/2001	Closed	Implemented by the "Law of the planned economic activity impact on the environment" No. VIII-1636, from 2000	Polish regulations comply or will comply with the Directives	At the accession date Romania will ensure the compliance with the Directive provisions, through the administrative measures.	MoE	

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
LCP 88/609	Directive 88/609/EEC on the limitation of emissions of certain pollutants into the air from large combustion plants is fully transposed in the Bulgarian legislation.	Closed	It has been implemented by the Decree of the Environment Minister No. 22/1998	Closed	Implemented by the decrees of the Minster of Environment No. 486, 2001 and No. 438, 2001		Romania asked for a transition period of 5 years (2007-2012).	MoE	
LCP 2001/80	On the limitation of emissions of certain pollutants into the air from large combustion plants. A project of order-analog of the Directive vas created.	Closed	Not implemented yet	Closed	Implemented by the decrees of the Minster of Environment No. 486, 2001 and No. 438, 2001	Transition periods until 2015 for the emission of SO2, until 2017 for the emission of dusts, until 2017 for the emission of NOx		MoE	
NC 2001/81	National plan scenarios foresee national emissions lower than required ceilings for atmospheric pollutants.	Closed	The Gothenburg Protocol on long range transboundary air pollution was signed by Hungary, and the Decree of the Environmental Minister #22/1998 set gradually decreasing national	Closed	Regulations are drafted, to be approved in 2003	Polish regulations comply or will comply with the Directives	The provision of the Directive has been adopted by the Order 592/2002 of Minister of Water and Environmental Protection Ministry	MoE	

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
			emission ceilings for SO2 and NOx emissions from LCP accordingly						
IPPC 96/61	The Directive, concerning integrated pollution prevention and control Partially implemented. Preparation of full implementation.	Closed	It has been implemented by the Environment Protection Act (53/1995) and by various Government Decrees	Closed	Ministry of Environment has drafted regulations of the integrated pollution prevention and control implementing this Directive	Transition period until 31 Dec 2010 for 65 industrial plants	Romania asked for a transition period of 8 years (2007-2015).	MoE	
National plans to:									
Limit LCP emissions	Yes	Through the environmental taxes and new technology	To the extent Directive 88/609/EEC requires	Yes	The Law on Pollution Taxes, 1999, No. VIII-1183	NA in our Authority	In order to be in line with the Directive provision, for existing facilities a timetable for mitigation of LCP emissions will be establish: for SO2: in 2004 - 40%, in 2007-50%, in 2012 - 70%; for Nox: in 2007 - 20%, in 2012 - 40%.	MoE	
promote E-RES	Proposal	Through higher tariff	Promotion is based on feed-in obligation and fix price	Yes	Purchase obligation and feed-in tariffs	Electricity companies are obliged to purchase certain amount of their electricity supplies from the RES. In their	There are not concrete plans, yet. A new long-term strategy in the energy sector, which will promote E-RES, is in the		

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
						portfolio they should increase RES in the way as follow: 2001 - 2,4%; 2002 - 2,5%; 2003 - 2,65%; 2004 - 2,85%; 2005 - 3,1%; 2006 - 3,6%; 2007 - 4,2%; 2008 - 5,0%; 2009 - 6,0%; 2010 - 7,5%.	approval process.		
Reduce GHG	Yes	Reduce GHG in 2010 29 %	"Hot air" seems to provide abundant buffer to meet the Kyoto commitment in spite of the growing GHG emissions	Yes	by 8% until 2012	No target CHP capacity has been set. Out of 33 GW of installed capacity 16% in CHPs.	Romania must reduce with 8% GHG from 1989 to 2008	MoE	

2. ARE THERE ANY PLANS TO INTRODUCE EMISSIONS TRADING?

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Year	GET[2]	Yes, there are.	Preliminary talks has been started among industry, state administration and NGOs regarding ET and other means of climate strategy implementation		Yes, no date.	We are working on the system of emissions trading. It will be probably implemented in 2004.	Up to date there is no established a plan in this direction. The Romanian strategy on short time (2000 - 2004) in the field of energy provides that the emission trading is a priority. Romania has signed memorandums of understanding concerning cooperation on Activities Implemented Jointly (AIJ) and Joint Implementation (JI) with the Netherlands, Switzerland, and Norway. A proposal for a host country agreement between Romania and EBRD as a trustee the Prototype Carbon Fund (PCF) is under discussion	Since 2002 emission limits SO2 internal trading, since 2005 - CO2	

[2] GET*: COM (2001) 581 Proposal for a Directive of Greenhouse Emissions Trading (2005)

3. AIR EMISSIONS SO2, NOX, CO2 IN 1998 (DATA FROM DATABASE OF UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
	See Attachment						N/A		See Attachment

4. MANAGEMENT OF RADIOACTIVE WASTES

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Management	Applied ET for spent fuel management. Funds for Radioactive waste and Fund for decommissioning of nuclear installations are created	By state program	Fulfilled by National Radioactive Waste Management Agency, which is supervised by the Hungarian Nuclear Energy Authority		Created Radioactive Waste Management Agency in July 2001.	It is not the responsibility of the Regulator	Public management		No NPP
Incomes		By taxation	The Nuclear Monetary Fund is the source for financing waste management duties, which is paid by all operators of various nuclear processes - energy, medical or research		17,5 million EUR for safety of Ignalina NPP, waste storage and repository in 2003		The costs of radioactive wastes management are included in electricity production price		

4. RENEWABLE ENERGY SOURCES AND COMBINED HEAT AND POWER

4.A ENERGY IN 2000

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
2000 energy delivered to the grid (GWh)									
Fuel oil	883	0	4267	57	852,1	1 716 (together gas and oil)	4528	778	3 396,0
Natural gas	1639	537	6907	1185	946,8			2879	9 908,0
Other fuels	1271	7964	8888	71	94,7	15 023	1877	1354	1 377,0
			14180						
TOTAL CHP	**3794**	**8501**	**3386**	**1313**	**1893,6**	**16 739**	**6405**	**5011**	**14 681,0**
Solar	0		0	0	-	None	No installed capacities	0	
Wind	0	0	1,2	4	-	5,304	No installed capacities	0	33,0
Hydro =< 10MW	2673	0	178	4,5	26,6	702,214	816	142	344,0
Hydro> 10 and =< 50 MW		6		0	-	316,103	3683	1595	1 292,0
Hydro > 50 MW		0	0	2814,5	613,2	992,493	10848	3068	29 243,0
Biomass	6199	0	0	0	-	0,055	No installed capacities	0	
Biogas, landfill gas or sewage treatment		0	0	0	-	31,612	No installed capacities	0	21,0
Other	0	0		0	-	None	No installed capacities	0	76,0
TOTAL RENEWABLES	**8872**	**6**	**179**	**2819**	**639,8**	**2 047,78**	**15347**	**4805**	**31 009,0**
Solid Urban Waste SUW	0	0	91	0	-	NA in our Authority		0	
Industrial Waste	291	0	89	0	20			0	54,0
Other		0		0	-			0	145,0
TOTAL WASTE	**291**	**0**	**180**	**0**	**20**			**0**	**199,0**
TOTAL CHP+RES+WASTE	**12957**	**8507**	**359**	**4136**	**2553,4**	**18 786**	**21752**	**9816**	**45 889,0**
Gross Electricity	**36307**	**6338**	**35884**	**5922**	**9979,8**	**145 183**	**43398**	**28204**	**128 276,0**

Consumption									
% Renewable +SUW/Gross Electricity	**25,24%**		**0,75%**	**47,60%**	**6%**	**1,4%**	**35%**		
Consumption		0,09			6813,7				

4.B CAPACITY IN 2000

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
2000 capacity (MW)									
Fuel oil	221,5	0	4293	4,5	1155,1	400 together gas and oil	4733	108	933,0
Natural gas	541	220		510	1283,4			803	1 187,0
Other fuels	408	2991	1913	5	128,3	4 740	2894	492	133,0
			1851						
TOTAL CHP	**1170,5**	**3211**	**878**	**519,5**	**2566,8**	**5 140**	**7627**	**1403**	**2 253,0**
Solar	20	0	0	0	-	None		0	
Wind	0	1	0,6	1,2	-	4,252		0	19,0
Hydro =< 10MW	1468	0,8	21	0,8	12,7	234,051	343	55	152,0
Hydro> 10 and =< 50 MW		0		0	-	124,6	1700	443	474,0
Hydro > 50 MW		0	0	1491,1	900,8	309	4050	1194	10 549,0
Biomass	0	0	0	0	-	0,58		0	
Biogas, landfill gas or sewage treatment		0	0	0	-	10,272		0	4,0
Other		0		0	-	None		0	18,0
TOTAL RENEWABLES	**2451**	**1,8**	**21,6**	**1493,1**	**913,5**	**682,755**	**6093**	**1692**	**11 216,0**
Solid Urban Waste SUW	0	0	12	0	-	NA in our Authority		0	
Industrial Waste	963	0	12,5	0	35			0	19,0
Other	0	0		0	-			0	72,0
TOTAL WASTE	**963**	**0**	**24,5**	**0**	**35**			**0**	**91,0**
TOTAL CHP+RES+WASTE	**4584,5**	**3212,8**	**46,1**	**2012,6**	**3515,3**	**5 822**	**13720**	**3095**	**13 560,0**

4.C AVERAGE PRICE AND AVERAGE EQUIVALENT PREMIUM OVER MARKET PRICE IN 2000

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
2000 Average price/over cost (euro/MWh)									
Fuel oil	72	0	55	32	21,8 (variable component)	28			
Natural gas	48	15		32	35,2 (variable component)	40			
Other fuels	42	29	60	32	28,4 (variable component)	30			
			27						
TOTAL CHP		**27**	**60**	**32**	**43,7**	**30**	**Because in 2000 the most part of CHP belonged to TERMOELECTRIA (97%), the regulated price established for this producer was 44 euro/MWh.**		
Solar	36	0	63	No	-	None			
Wind	36	60		100	-	59			
Hydro =< 10MW	36	60		100	57,9	35	33,8 EUR/MWh		
Hydro> 10 and =< 50 MW	36	0		No	-	17	4,8 EUR/MWh		
Hydro > 50 MW	36	0		15	23,2	17	4,8 EUR/MWh		
Biomass	36	0		No	-	33			
Biogas, landfill gas or sewage treatment	36	0		No	-	62			
Other	36	0		No	-	None			

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
TOTAL RENEWABLES	**36**	**60**	**63**	**100**	**15,2**	**37**	**Because all hydro plants belongs to HIDROELECTRICA the regulated price established for this producer was 9 euro /MWh**		
Solid Urban Waste SUW	No	0		No	-	NA in our Authority	No		
Industrial Waste	No	0		No	22,6		No		
Other	No	0		No	-		No		
TOTAL WASTE	**No**	**0**		**No**	**22,6**		**No**		
TOTAL CHP+RES+WASTE	**35-40**	**28**		**Average price - 20**	**36,4**	**33,5**			

5. MAIN INSTRUMENTS ON PROMOTING RES AND CHP

5.A FIXED PRICE SYSTEM

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Political context, Act or other rules	Energy and Energy Efficiency Act. A new Energy Act involving market conditions in the energy sector is under preparation	State program	Decree of the Minister of Economy No. 56/2002	Energy law, Electricity sector policy, Regulations of Cabinet of Ministers	Law on Electricity - Public Service Obligations - obligation to buy by set prices	Energy Low of April 10th, 1997; The ordinance on obligatory purchase of energy from RES of December 15th, 2000; Government's Plan of Energy Policy until 2020	The Directive 2001/77 is undergoing to be adopted		
National targets on RES	Proposal for Electricity 7% of Gross inland energy consumption from RES and 4.8 TWh per year thermal energy	Environmental	No targets	By the year 2005: - the introduction of new renewable energy sources should not increase the average electricity tariff more than 5% - renewable energy increase will be approximately 6% in total electricity balance	Energy Strategy - until 12% of RES in the primary energy balance in 2010	Purchase 2,65% energy from RES in 2003; 7,5% in 2010. Obligatory to purchase from CHP over 65% efficiency.	Not established yet		

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Detailed mechanism	NEK has the obligation to buy E-RES<10MW and co-produced electricity by CHP in fixed prices, shown at Table 4C	Through taxes	Distribution companies are obliged to purchase any amount offered by eligible CHP and all producers of electricity from renewable sources and to pay them a premium over the wholesale price of electricity they purchase from the monopoly wholesaler MVM Rt. The price premium is refinanced from the regulated margin of MVM Rt by an automatic tariff mechanism.	Buying from RES-E <2MW for fixed prices, shown at table 4C	Obligation to guy and feed-in tariffs	Obligation to purchase. Penal fees for avoiding of purchase.	Not established yet		
Eligible technologies	CHP and wind, biomass, solar, geothermal	CHP and RES	All CHP: net efficiency min 65%, RES: net capacity over 0,1 MW	Hydro, CHP, biogas/mass, wind, solar, peat	Wind, small hydro, biomass, geothermal, CHP	Hydro, wind, biogas, biomass, biofuels, landfill gas, sewage treatment, geothermal, solar.			
Excluded technologies		Others	Hydro over 5MW	Others		CHP less then 65% efficiency, nuclear fuels, expensive heat (more then 1,25 rise			

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
						to inflation), burning wastes, peak pumped storage power stations.			
CO2 value inclusion		Through environmental taxes	-			NA in our Authority			
Imports	Not applied	No		According to contracts					
Financial incentives		Buying price is higher		-	Relatively high purchase prices				
Tariff level (euro/MWh)	Industrial consumers 8.3-2.3 €/MWh depending on voltage and time zone. Households – 6.35-3.4 €/MWh depending on time zone	60	Peak: 102 euro/MWh, off-peak: 64 euro /MWh	Industrial customers 36,7-46,7 depending on voltage and time zone. Households- average 55	Hydro power and power, using biofuel - 57,9 EUR/MWh, Wind power - 63,7 EUR/MWh				
Eligibility for existing and new facilities	See table 4C	Normal	Uniform	Licensing, permissions	Permission				
Priority in access or in dispatch for	CHP and RES considered no dispatchable		Yes	DSO are obliged to by RER-E and CHP	Yes, Law on Electricity	Obligation to purchase.	Yes for CHP		
RES and CHP		Normal			Yes, Law on Electricity	No formula in Poland			

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
General variables and formula to determine the remuneration	Reflect average production cost	WACC	In case of natural gas based small scale CHP or district heating facility an indexation formula provides pass-through of increasing gas costs	Average tariff					
Time to review the tariff	Year	1 year	1 year	No	No	Year			
Market potential and cost of the system	Studying in a project.	Normal	Under review		Under review	NA in our Authority			
Additional information	Preparation of SDDP model SDDP is a transmission-constrained production model, which can be used for long-, mid- and short-term planning studies of hydrothermal systems. Besides the optimal operating policy, the model calculates several economic indices such as bus marginal costs, network congestion revenues, water values, marginal value of gas reserves etc.								
Success of the system		Normal	Increasing investment		Increased activity				
Obligation to make schedule in advance	Proposal to be involved	Required	Not required		Not required		Yes for CHP		

5.B TRADABLE GREEN CERTIFICATE SYSTEM

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Political context, Act or other rules		Green energy certificate system worked out	The new Electricity Act allows for the Government to switch from the current feed-in obligation to a green certificate obligation only after "substantial supply of RES is available, and enough experience is drawn from other countries' TGC systems".	Energy sector policy	Energy Strategy				
National targets on RES		To produce and sell green energy			12% in 2012				
Responsibility of obligation		Producer responsibility				No tradable green certificate system in Poland			
Timetable		Year							
Eligible technologies		REC technology							
Excluded technologies		Others							
Certification body		REC							
CO2- value inclusion		0,5 euro/ton environmental tax							
Imports		No							
		Higher price							
Maximum (buy out) price of the certificate		For large companies 120,000kWh costs 4985 euro+VAT							
Life of certificates		1 year							
Eligibility of existing		Normal							

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
and new facilities									
Market potential and cost of the system		Normal							
Additional information		No							
		Normal							

6. LEGISLATIVE FRAMEWORK (BARRIERS)

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Are there any problems with …									
the authorization process?	No	No	Too much burocracy	No	No		No		
opposition from public?	No	No	Lack of information to the public keeps resulting in refusal of various RES projects in public hearings	No	Some	We are not responsible to answer	No		
connection point?	No	Required	Distribution network operators may hamper connection lawfully	No	Some		No		
Solutions	No								

7. RULES

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Connection charges									
RES		Uniform		No	uniform, not differentiated by grid users	Uniform connection charges for RES - charges are set in tariffs approved by the Regulator	According to the present methodology charges are established by the network operator and is not differentiated on grid users. The regulator will establish connection charges.		G
CHP		Uniform		No		Uniform connection charges for CHP - charges are set in tariffs approved by the Regulator			G
Conventional		Uniform		No		Uniform connection charges for *Conventional* - charges are set in tariffs approved by the Regulator			G
Grid reinforcements									
RES		Needful		No	Not a problem now	Non - differential treatment	According to the present methodology the grid users support grid reinforcements.		G
CHP		Needful		No					GO
Conventional		Needful		No					GO
Fees for using the grid									
RES		Uniform		No	Uniform, not differentiated by grid users	Non - differential treatment	Average transmission tariff - 4.8 euro/MWh Average distribution tariff - 9 euro/MWh		G
CHP		Uniform		No					G
Conventional		Uniform		No					G

8. ENERGY AND ENVIRONMENTAL TAXATION

8.A AVERAGE LEVEL OF TAXATION FOR:

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Emissions of pollutants from LCP (Euro/ton)		SO_2	Govt' Decree No. 21/2001 regulates taxation ("penalty") payable by LCP operators in case of violating the emission standards (set by 88/609/EEC). The following pollutants are taxed: SO2, Nox, CO, TSP, dioxins, and furans. The payable amount is set by a formula and a "penalty-matrix" in Appendix 6 to the Decree. The amounts are sharply increasing from 2002 through 2007.		SO2 - 83 Euro/t, Nox - 138 Euro/t, V2O5 - 3328 Euro/t, hard particles 53Euro/t	100-NO2; 65-fall dusts; 100-SO2; 53-CO2; 26-CO; RES - exampled from the excise tax (0,005/kWh)	0.003 euro/ton (CO2, CO,) 5 euro/ton (SOx, NOx) 3 euro/ton (solid powder, organic substances) This taxes are applied to all activities which discharge this kind of pollutants		
		2002-5,2 euro/ton							
		2003-6,3 euro/ton							
		2004-7,6 euro/ton							
		2005-9,13 euro/ton							
Energetic activities		Oil shale ashes				Corporate income tax			
		2002-0,20 euro/ton							
		2003-0,31							

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
		euro/ton							
		2004-0,33 euro/ton							
		2005-0,34 euro/ton							
Electricity consumption	Lifeline Block tariff. Household customers consuming less electricity pay for by fewer prices.	No taxes	Only VAT		VAT - 18%	5 Euro/MWh			Residential-5%+İndustry 1%
Motor fuels for transport (ctsE/th) without VAT 2001									
Petrol	112	No taxes			362	408,5 Euro/ 1000 l			0,0000
Gasoil	55	No taxes			249	276 Euro / 1000 l			0,4240
Kerosene		No taxes				426 Euro/ 1000 l			0,2968
Liquid petroleum gas		No taxes				112,5 Euro/ 1000 kg			0,1934
Natural gas		No taxes				Free			
Heating fuels(ctsE/th) without VAT 2001									
Gas Oil	55	No taxes			23	276 Euro / 1000 l			0,2754
Heavy fuel oil	12,5	No taxes			13	Free			0,1743
Kerosene		No taxes				426 Euro/ 1000 l			
Liquid petroleum gas		No taxes				Free			0,1934
Solid energy products		No taxes				Free			
Exemptions or reductions in the level of taxation of									
Solar, wind, tidal, geothermal, biomass		No taxes				None	No exemptions		-
Hydro < 10 MW		No taxes					No exemptions		-
CHP		No taxes					No exemptions		-
Other		No taxes					No exemptions		-
Refund to efficient use									
Solar, wind, tidal, geothermal, biomass		Financing conservancy project				None			-
Hydro < 10 MW		Inicing conservancy project							-

9. DEMAND SIDE MANAGEMENT (DSM)

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Electricity consumption per capita (MWh)	4,576	5 MWH per capita	3,6	2,5	1940 in 2000 and 2053 in 2001	2,6	1,986		
Relation between demand and market	Balance	Demand and market are in balance		Balance					
Direct bidding, bilateral contracts, retailers	Bilateral contracts	No	Yes	Bilateral contracts, retailer	Bilateral contracts	Yes	Bilateral contracts, Ancillary services		
Ancillary services	TSO buys	No	ISO to buy ancillary services	No	TSO buys	Yes	Not set. At present moment the qualified consumers are those who have an annual consumption by 40 GWh, at least		
Qualified customers	15% from Jul 2003	No	33% from Jan. 2003.	Yes	26% in 2003	Yes			
Timetable	40, 20, 9 and 1 GWh for every next year	No	Timetable of market opening to be set by the government	Full market opening till the year 2006	2003 - 9 GWh, 2004-2009 - Government sets, 2010 - 100%.	Yes			
Signals in tariffs on DSM									
Interruption contracts	Possible, in accordance to general conditions	No	Possible	Yes	-				
Different price in different hours	Yes	Day night tariff	Only for interruptible customers	Average and day-night tariff	Three types of tariffs: One part, Time of use and Differentiated tariff (4 time zones)	Yes			
Economic incentives on DSM									
Total amount	Lower tariff for households with small consumption	Needed			There are lower tariffs for residents using more than 12,000 kWh per year	This is not the responsibility of the Regulator.			

	BULGARIA	ESTONIA	HUNGARY	LATVIA	LITHUANIA	POLAND	ROMANIA	SLOVAKIA	TURKEY
Targets	Needed	Needed			To make effective tariff structure of the new distribution companies				
Kind of technologies	Needed	Needed			There are lower tariffs for residents using electric stoves				
Evaluation and potential improvement	Needed	Needed			Customer complaints and periodical review				
Any plans to save energy	The state energy efficiency strategy in process of preparation	New technology, to raise efficiency		The state energy efficiency strategy: till the year 2010 the 25% decrease of primary energy consumption per GDP unit	To implement the National increasing of the efficiency of energy consumption program. There is possible to save from 20-50% of energy resources.				
				NOTE: Information for non-filled files is not related to Public Utilities Commission					

ATTACHMENT

3. AIR EMISSIONS SO2, NOX, CO2 IN 1998

Emission sources by parties for SO_2 (in Gigagrams)	**Bulgaria**	**Poland**	**Turkey**
Energy industries	951,91	SO2 - 1 897 000 tons; NOx - 991 000 tons; CO2 - 338 095 000 tons.	1 322,56
Manufacturing/Construction	150,7		619,14
Transport	8,35		61,78
Other	102,48		238,03
Total fuel combustion	1213,44		**2 241,50**
Solid fuels	0		
Oil and natural gas	0		
Total fugitive emission from fuels	0		
Other (industrial processes, waste,…	0		57,54
	1213,44		**2 299,04**
Emission sources by parties for Nox (in gigagrams)			
Energy industries	54,17		210,39
Manufact./Construction	26,14		206,65
Transport	46,48		309,03
Other	7,52		191,64
Total fuel combustion	134,31		**917,71**
Solid fuels	0		
Oil and natural gas	0		
Total fugitive emission from fuels	0		
Other (industrial processes, waste,…			22,55
National Total	134,31		**940,26**

	Bulgaria	Poland	Turkey
Emission sources by parties for CO_2 (in gigagrams)			
Energy industries	27520,64		72320
Manufact./Construction	14354,38		68103
Transport	6475,23		36562
Other	3037,96		33478
Total fuel combustion	51388,21		**210 462,41**
Solid fuels	0		
Oil and natural gas	0		
Total fugitive emission from fuels	0		
Other (industrial processes, waste,…	0		16 893,14
National Total	51388,21		**227 355,55**